

ABSTRACT OF THE DISCLOSURE

The invention provides a method and apparatus for reducing image lag in CMOS active pixel sensors at low light levels by controlling the reset level. By ensuring that the reset level is independent of the preceding signal level, the problem of image lag can be avoided. Always resetting a photodiode to a fixed voltage is a hard reset. The maximum signal swing is limited by the reset level and the column readout amplifier. If the column circuits are not modified, using hard reset can reduce the maximum signal swing. However in dark images only a portion of the full scale is used. Therefore the amplifier gain setting can be used to determine whether to use a hard reset or soft reset. This method and apparatus for using hard or soft reset dependent on signal level improves image quality at low light levels without compromising performance at high illumination.